

Claims

What is claimed is:

- 1 1. An apparatus for handling print media, the apparatus comprising:
2 a support;
3 at least three cups mounted on the support, each of the three cups having a
4 distal surface for contacting the print media;
5 the distal surfaces of two of the three cups lying in a first plane and the distal
6 surface of the other of the three suction cups lying in a second plane, wherein the first
7 and second planes are offset from each other.
- 1 2. The apparatus of claim 1, wherein the support further comprises a
2 rotatable member.
- 1 3. The apparatus of claim 1, wherein the first and second planes are offset
2 from one another by at least 0.3 mm.
- 1 4. The apparatus of claim 1, wherein the support is configured to rotate
2 about an axis, at least two of the cups being disposed different distances from the axis.
- 1 5. The apparatus of claim 1, further comprising:
2 a print engine;
3 a drum for advancing the print media from the print engine to the cups.
- 1 6. The apparatus of claim 1, wherein four cups are mounted on the support
2 and are arranged in a line with middle cups being in the first plane and outer cups
3 being in the second plane.
- 1 7. An assembly for handling sheet material, the assembly comprising:
2 a rotor having an axis of rotation;
3 coupling members mounted on the rotor for adhering sheet material to the
4 coupling members by suction;
5 wherein at least one of the coupling members is disposed a first distance from
6 the axis of rotation and another of the coupling members is disposed a second distance
7 from the axis of rotation, the first and second distances being different.

1 8. The assembly of claim 7, wherein the coupling members comprise at
2 least three coupling members arranged in a line.

1 9. The assembly of claim 7, wherein the coupling members comprise
2 suction cups coupled to a vacuum source.

1 10. The assembly of claim 7, wherein the coupling members comprise first
2 and second sets of coupling members configured to rotate independently.

1 11. The assembly of claim 7, wherein the first and second distances differ by
2 at least 0.3 mm.

1 12. The assembly of claim 7, further comprising a drum positioned adjacent
2 the cups for delivering sheet material to the cups, the drum having a gripper disposed
3 thereon for selectively maintaining the sheet material on the drum

1 13. An imaging device comprising:
2 a print engine for forming an image on the medium;
3 suction members arranged in a line, each suction member configured to rotate
4 about an axis of rotation and to adhere to the medium after the imaging engine has
5 formed an image on the medium;
6 the suction members being disposed different distances from the axis of
7 rotation and configured to corrugate at least a section of the medium when the
8 medium is adhered to the suction members.

1 14. The imaging device of claim 13, wherein the suction members comprise
2 at least three suction members with a middle one of the suction members being
3 disposed a first distance from the axis of rotation and other ones of the suction
4 members being disposed a second distance from the axis of rotation, the first and
5 second distances being different.

1 15. The imaging device of claim 13, wherein the suction members comprise
2 at least four suction members with middle ones of the suction members being
3 disposed a first distance from the axis of rotation and other ones of the suction
4 members being disposed a second distance from the axis of rotation, the first and
5 second distances being different.

1 16. The imaging device according to claim 13, wherein the imaging engine
2 comprises a liquid electrophotography print engine.

1 17. A digital imaging press, comprising:
2 a liquid electrophotography print engine;
3 a drum for advancing media relative to the print engine;
4 suction cups configured to rotate about an axis of rotation for adhering to and
5 picking the media from the drum, at least one of the suction cups being disposed
6 farther from the axis of rotation than at least one of the other suction cups such that
7 the media is at least partially corrugated in a direction transverse to a direction of
8 travel at the suction cups.

1 18. The digital imaging press of claim 17, wherein the suction cups comprise
2 first and second sets of suction cups, the first set of suction cups being rotatable
3 independently from the second set of suction cups.

1 19. A method for handling print media, the method comprising:
2 gripping a sheet of print media at different locations of the print media, the
3 different locations being disposed along a line orthogonal to a direction of movement
4 of the print media such that the sheet of print media has a corrugated cross-section
5 along the line orthogonal to a direction of movement;
6 rotating the print media about an axis, at least two of the different locations
7 being different distances from the axis.

1 20. A system for handling print media, the system comprising:
2 means for gripping a sheet of print media at different locations of the print
3 media, the different locations being disposed along a line orthogonal to a direction of
4 movement of the print media such that the sheet of print media has a corrugated cross-
5 section along the line orthogonal to a direction of movement;
6 means for rotating the print media about an axis such that at least two of the
7 different locations are different distances from the axis.

1 21. An imaging device, comprising:
2 means for forming an image on a medium;
3 means for corrugating the medium such that the medium has a corrugated
4 cross-section in a direction transverse to a direction of travel.